NOTICES OF FINAL RULEMAKING

The Administrative Procedure Act requires the publication of the final rules of the state's agencies. Final rules are those which have appeared in the *Register* first as proposed rules and have been through the formal rulemaking process including approval by the Governor's Regulatory Review Council or the Attorney General. The Secretary of State shall publish the notice along with the Preamble and the full text in the next available issue of the *Register* after the final rules have been submitted for filing and publication.

NOTICE OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 6. DEPARTMENT OF ENVIRONMENTAL QUALITY PESTICIDES AND WATER POLLUTION CONTROL

[R05-365]

PREAMBLE

1. Sections Affected — **Rulemaking Action**

R18-6-101	Amend
R18-6-102	Repeal
R18-6-102	New Section
R18-6-103	Amend
R18-6-104	Amend
R18-6-105	Repeal
R18-6-106	Amend
R18-6-301	Amend
R18-6-302	Amend
R18-6-303	Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statutes: A.R.S. §§ 49-104(B)(4), 49-302(A)(7), 49-303(D), and 49-305(A)

Implementing statutes: A.R.S. §§ 49-302, 49-303, 49-304(B), 49-305, 49-306, 49-307, and 49-309

3. The effective date of the rules:

November 22, 2005

4. A list of all previous notices appearing in the *Register* addressing the final rule:

Notice of Rulemaking Docket Opening: 10 A.A.R. 2322, June 11, 2004

Notice of Proposed Rulemaking: 11 A.A.R. 1220, April 1, 2005

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

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6. An explanation of the rule, including the agency's reason for initiating the rule:

Background

Agricultural pesticides are a category of chemicals that include insecticides, herbicides, fungicides, defoliants, fumigants, growth regulators, and desiccants among other types. Pesticides can be applied in many different ways. Agricultural pesticides are normally applied by four different methods. Aerial application is the application of pesticides by airplane or helicopter. Ground application, the second technique, is the application of pesticides by equipment based on the ground, such as a tractor or trailer. The application equipment includes a large tank to hold the pesticide and water mixture, a pump to move the pesticide mixture out of the tank, and booms which have nozzles that evenly disperse the mixture onto the intended target site. Air blast is another method in which the application equipment

does not have a boom and nozzle but has a large fan, and pump that introduces the pesticide mixture into the air stream which disperses it over trees or other large target that require treatment. Other pesticides are applied in granular form and incorporated into the soil by harrowing. Fumigants are often injected into the soil, after which the soil surface is irrigated or lightly compacted to force the chemical to disperse into the subsurface. The last major method of application is chemigation where the pesticide is mixed with irrigation water and distributed to the intended target through the irrigation system.

Federal

The federal basis for pesticide regulation was created under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) (7 U.S.C. §§ 136 et seq.) FIFRA was initially enacted in 1947 to regulate, among other things, the marketing, registration, distribution, labeling, and use of pesticides and devices. In later years, FIFRA was expanded to extend and add authorities to the primary federal regulatory agency, EPA, to evaluate and mitigate the human health and environmental risks of pesticides. By law, the EPA is authorized to register a pesticide for use in the United States only if a pesticide will not cause unreasonable adverse effects on human health or the environment.

The federal rules implementing FIFRA are at 40 CFR Subchapter E, Pesticide Programs. Under FIFRA, all pesticides that are sold or distributed in commerce must be registered. To obtain registration, data must be available to EPA to allow the agency to evaluate the characteristics and potential risks of the proposed pesticide. EPA will register a product only if the agency has sufficient information about a pesticide product to make the statutory determinations regarding the impacts of the pesticide on public health, fish, and wildlife, endangered species, and the environment, including any relevant impacts on the air, surface waters, and groundwater.

Before a pesticide can be marketed and used in the United States, it must be evaluated by EPA to ensure that it will meet federal safety standards to protect human health and the environment. The data requirements for registration are intended to generate data and information necessary to address concerns pertaining to the identity, composition, potential adverse effects, and environmental fate of the pesticide. A pesticide that meets the requirements is granted a license or "registration" that permits its distribution, sale, and use according to specific use directions and requirements identified on the label. Furthermore, EPA evaluates and approves the exact language of all pesticide labels and mandates that pesticides are only to be used in a manner that is consistent with their labeling. When EPA approves a particular pesticide for registration, the agency has assessed the chemical and found that, when used according to label directions, the pesticide does not pose unreasonable risk to public health and the environment.

A pesticide cannot be legally used unless it has been registered by EPA. An individual state may accept EPA's findings or may adopt registration procedures of its own. Arizona is one of a handful of states that has adopted and implemented requirements for the submission of scientific data and the evaluation of these data as part of its pesticide registration program.

Since adoption of the Arizona program in 1986, the EPA has made some changes to the federal pesticide program. In 1993, EPA implemented a "Reduced Risk Pesticides Initiative" to encourage the development, registration, and use of lower risk pesticide products containing new chemicals that would result in reduced risk to human health and the environment, including the groundwater, when compared to an existing alternative. Since 1993, over 27 new chemical submissions have been received by EPA under this new category. Fourteen of these met the criteria for expedited review and eight have actually been registered. EPA estimates that the new process reduces registration times from approximately 38 months (on average) for a new, conventional pesticide to only 14 months for a reduced risk pesticide. Other improvements include further development of both surface water and groundwater modeling programs to aid in evaluating a pesticide's impact on the environment and refinements in the data requirements impacting these evaluations.

State

Arizona's Pesticide Contamination Prevention Program was established by the Environmental Quality Act (EQA) of 1986 (A.R.S. Title 49, Chapter 2, Article 6). Modeled after a similar statute enacted in California, in 1985, the program was designed to prevent or eliminate groundwater contamination from routine agricultural pesticide use. The 1986 program had four major components.

(1) Data submittal and completeness determination review. Before registering an agricultural use pesticide, with the Arizona Department of Agriculture (ADA), an applicant must submit specific product chemistry and environmental fate data for the associated active ingredient(s) to the Department for review. A.R.S. § 49-302 requires that all studies must at least meet the testing methods and reporting requirements in the EPA's *Pesticide Assessment Guidelines*. Additionally, the Act requires that certain environmental fate data be obtained using, environments similar to those found in Arizona (A.R.S. § 49-302(A)(6) and (D)).The Department determines the adequacy, validity, and completeness of the data and informs the intended registrant of any deficiencies. Once the data requirements are satisfied, the Department notifies the ADA that the pesticide registration can be processed. When filing for registration with ADA, the registrant must attest to completion of the data review on the ADA registration form.

(2) Creation of the Groundwater Protection List (GWPL). After satisfying the data submittal requirements, the Department evaluates the product chemistry and environmental fate data to determine whether an agricultural use pesticide has the potential to pollute groundwater in the state. Any pesticide found to have the potential to pollute is placed on the Groundwater Protection List and regulated according to A.R.S. § 49-305(A). A.R.S. Title 49, Chapter

2, Article 6 requires the Department to establish criteria to determine the potential of a given pesticide to reach and pollute groundwater. The Specific Numeric Values (SNVs), adopted in A.A.C. R18-6-103, are based on the persistence and mobility characteristics of the active ingredient, for determining whether a pesticide has the potential to pollute groundwater.

(3) Soil and groundwater monitoring. Once the GWPL is established, the Department, in cooperation with the ADA, monitors groundwater and soils in agricultural areas throughout the state for the presence of agricultural pesticides on the GWPL.

(4) Annual Reports. The EQA requires that the GWPL and active ingredient must be reported to the Legislature by December 1st of each year. The Department works with the ADA to compile and report sales and use information on soil-applied agricultural use pesticides that fail the SNVs and therefore have the potential to pollute groundwater. Since the mid-1990's, this information has been obtained from the ADA Form 1080.

The EQA requires that any pesticide listed on the GWPL be regulated by the Department. Before this rulemaking, the only requirement was to report the sale and use of an active ingredient on the GWPL. Reporting the sale and use of an active ingredient on the GWPL offers slim insight into the actual source of the pesticide if the active ingredient is found during soil or groundwater monitoring. Because the program is designed to prevent contamination rather than react to contamination, the new rules require the implementation and use of Best Management Practices when using pesticides listed on the GWPL to prevent pollution of groundwater.

Brief History of Pesticide Use in Arizona's Agriculture

The use of pesticides in Arizona has largely been governed by changes in the types of crops grown, the development and availability of new pesticide chemicals, and regulatory requirements. Both the chemical and agricultural industries have undergone significant changes over the past 50-60 years. In the 1940's, inorganics, such as sulfur and lead arsenate and botanicals, such as nicotine sulfate and pyrethrum, comprised the bulk of the pesticides in use. Then, as now, cotton was a dominant crop in Arizona. In the 1950's, organochlorine pesticides (including DDT, toxaphene, and dieldrin) and organophosphorus pesticides (including malathion and parathion) became available. In general, organochlorine pesticides were very immobile and their persistence provided long lasting crop protection. In contrast, organophosphorus compounds were more mobile and less persistent but were generally more acutely toxic to the target pests. Introduction of these pesticides dramatically increased crop yields in Arizona in the 1950's and 60's. The 1960's also saw a rise in problems with these pesticides due to decreasing pest control efficacy (from increased resistance by target species) and secondary pest outbreaks because of non-selective elimination of beneficial predators.

Public concern over the use of pesticides was growing and in 1969, Arizona was the first state to totally ban the use of DDT for agricultural purposes. Sweeping changes in the pesticide industry occurred in the 1970's. Most of the organochlorine pesticides were banned during this decade and were replaced with a new class of pesticides known as synthetic pyrethroids. Overall herbicide use increased as the percentage of treated cotton acreage increased in the 1970's but the total pesticide load per acre decreased due to the very low application rates needed for synthetic pyrethroids. Also introduced in the 1970's were biological pest control agents, including microbial and viral insecticides, insect growth regulators, and pheromones. Like earlier pesticides, pest resistance developed. These new pesticides decreased the number of applications per season but at a much higher cost to the grower.

The 1980's saw cotton acreage reach over 40 percent of Arizona cropland, the highest percentage ever. Grain production declined over the same period and urban development consumed citrus acreage. During the same time period, cultivation of vegetables, fruits, and nuts increased. Federal restrictions, suspensions or cancellations were ordered for a number of agricultural pesticides including EDB, endrin, toxaphene, and dinoseb. Pesticide loads per acre continued to decrease. Factors contributing to the decrease include use of pesticides with lower application rates, shifts to Integrated Pest Management techniques, regulation of certain compounds, and improved delivery systems.

The face of Arizona agriculture continues to change. While the number of farm operations has remained relatively stable over the past twenty years (1982-2000) the number of acres in production has dropped from nearly 38 million acres in 1982 to approximately 27 million acres in 2000 (Figures 1 & 2).

Figure 1

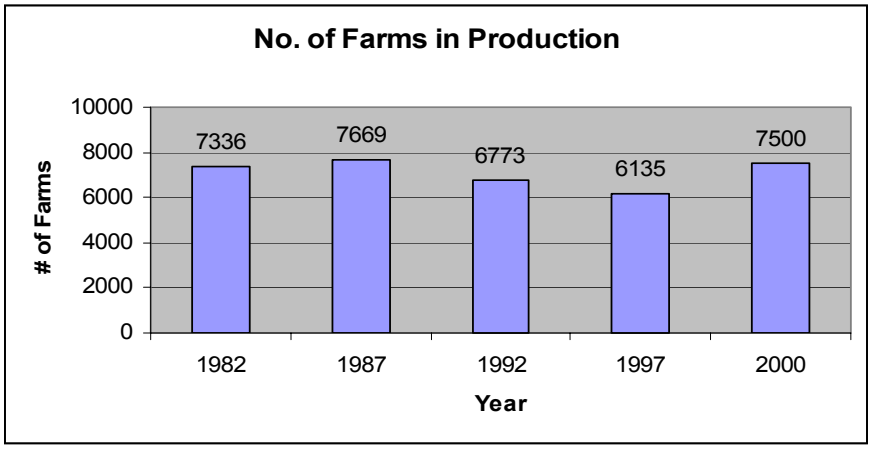
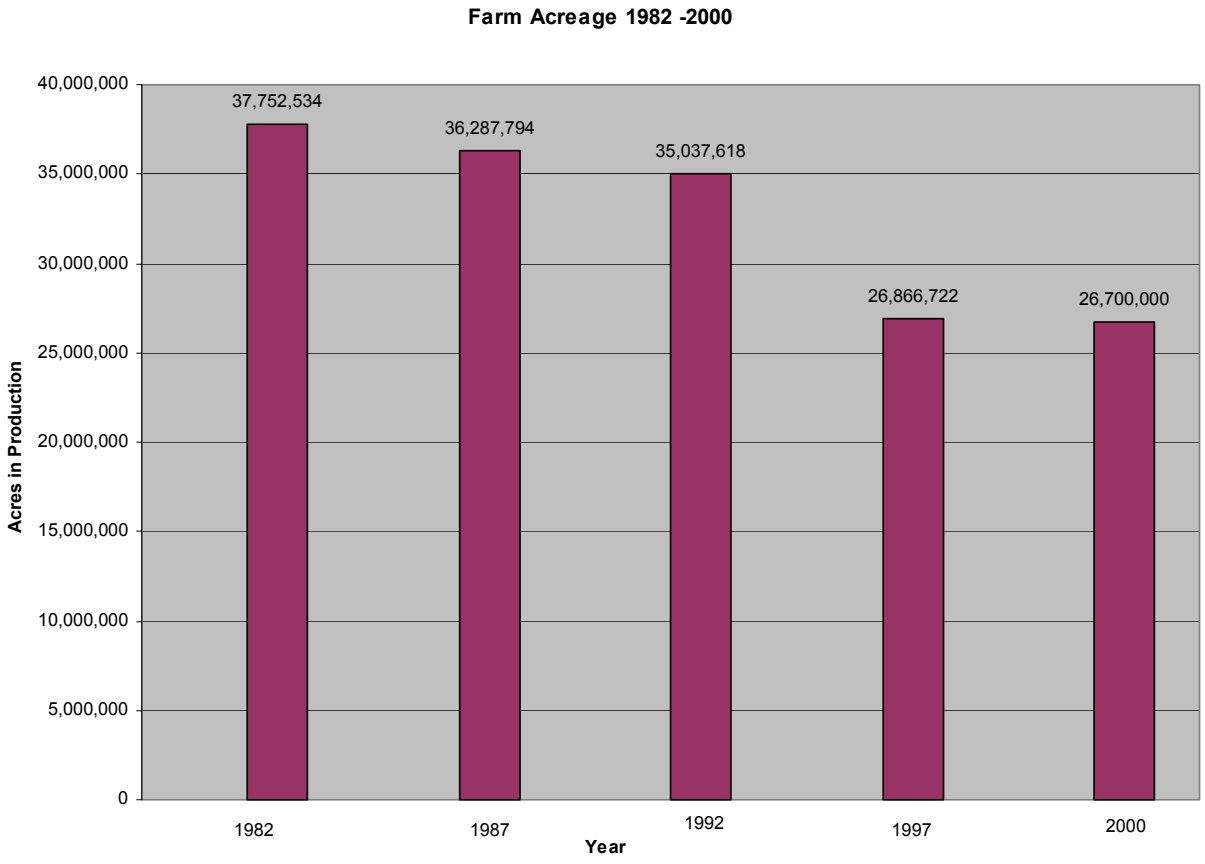


Figure 2



The type of crops grown has also shifted in the past twenty years as shown in Figures 3 and 4. As noted above, cotton acreage reached an all-time high in the 1980's but pressure from urbanization particularly in Maricopa and Pinal Counties and other economic factors has resulted in dramatic reductions over the past 20 years. Acreage for crops, such as barley, lettuce, vegetables, and melons, has increased over the 20 years. With these changes come improvements in both the agricultural industry and the chemical industry in Arizona. The revisions to these rules address these changes.

Figure 3

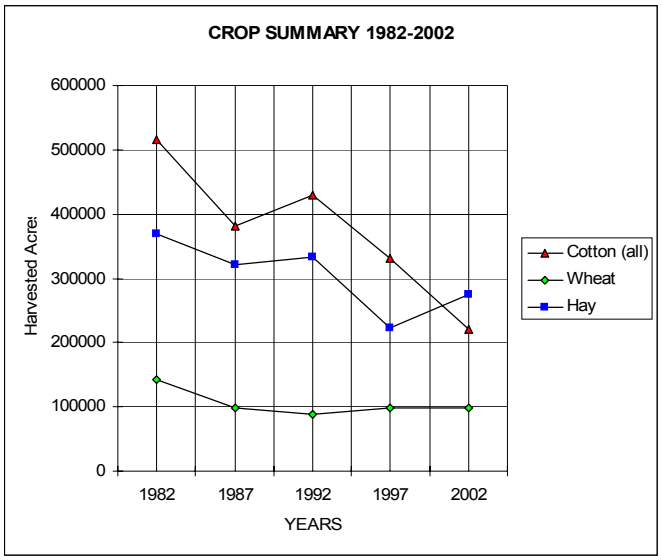
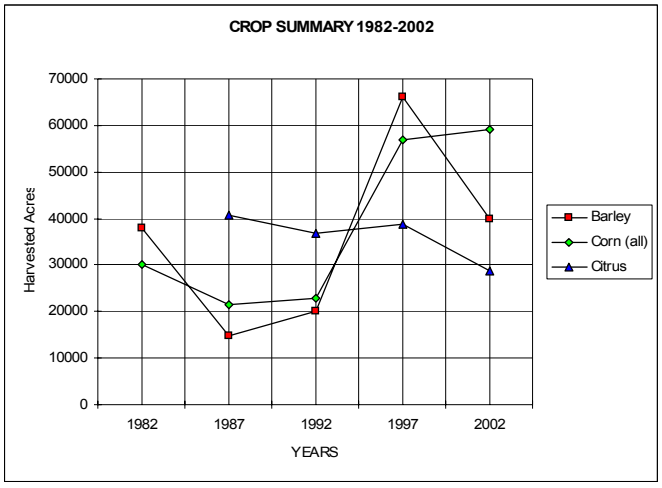


Figure 4



Reason for revisions

This rulemaking updates 18 A.A.C. 6 by making substantive changes to ensure the effectiveness of the rules and to acknowledge the changes in the industries the program regulates. During the spring of 2003, the agricultural community and the chemical industry approached the Department with concerns that the Pesticide Contamination Prevention Program was rigid, expensive, and contained many requirements unnecessary in the 21st century. Of particular concern was the impact of the program on minor use crops or niche crops, which are those crops that do not provide sufficient economic incentive for a registrant to support initial or continued registrations. The chemical industry estimates the time and costs to complete some of the required studies ranges from two months/$10,000 for a water solubility study to over 12 months / $125,000-$180,000 to complete a terrestrial field dissipation study. The consensus was that the program, as adopted, had limited flexibility to deal with advances in science.

At Senator Arzberger's (D-Willcox) request, the Department worked with a group of representative stakeholders to make the program more flexible and provide alternatives to complying with the data submittal and pesticide evaluation requirements while maintaining the protective nature of the program. The outcome of SB1246 provided three things: 1) flexibility to both the Department and the regulated community in satisfying the data call-in requirements that must be fulfilled before the ADA can register the pesticide for use in Arizona; 2) development of an alternative process in rule to evaluate the potential for a pesticide to reach and pollute groundwater; and 3) maintenance of the protective characteristics of the pesticides program while recognizing the advances in science underlying the risk assessment process.

There have been significant changes in both the chemical and the agricultural industries since the original rules were written. The statutory changes in the 2004 legislative session provide the ability to take advantage of gains in the science areas and to reflect improvements in how agriculture is conducted today. This rulemaking also provides clarity, complies with the clear, concise, and understandable requirements under A.R.S. § 41-1052(C)(4), meets current rulemaking format and style requirements, and ensures consistency with other rules and statutes.

R18-6-101. Definitions

"Active ingredient" and "new pesticide" are currently defined in A.R.S. §§ 49-301(1) and 49-301(7), respectively and have been deleted.

Although "Department" and "Director" are used in rule, they are terms that should be understood, and as such, unnecessary to define.

"Carcinogenic," "mutagenic," "teratogenic" and "toxic to humans" are terms found in statute and not used within these rules.

The term "field studies" has been deleted because the Department does not have the expertise or the budget to conduct studies under actual field conditions that replicate the circumstances under which a pesticide is normally used to determine the mobility and persistence. Instead, the Department conducts both water and soil monitoring in those areas of the state where those pesticides are known to be used to determine presence, mobility, and persistence;

This program only regulates "agricultural use pesticides," therefore, the term "nonagricultural use pesticide" is not necessary.

"Applicator," "applicator certification number," "custom applicator license number," "dealer," "final sale," "grower," "grower's permit number," "labeling," "restricted use pesticide," "seller's permit number," and "supplier" are no longer used in these rules. Currently, the terms, in R18-6-303, deal with reporting requirements for pesticides on the GWPL that are soil-applied. The revised rule, however, allows the Director to obtain this information from the ADA through their collection of information from the pesticide applicator on Form 1080.

"Agricultural use pesticide," "crop," "label," and "pest" have been amended to generally conform to ADA definitions.

Several other definitions were modified to conform with recent G.R.R.C. requirements.

R18-6-102. Agricultural Use Pesticide Submittal Requirements

The heading was changed to more accurately reflect the Section's content and the rule information was restructured in a more logical order, based on the actual submittal process.

When the rules were first enacted in 1987, current registrants were given a deadline within which to submit the newly required physical chemistry and environmental fate data. Up to a three-year extension was possible from the date of original rule enactment. Now, 18 years later, this language is no longer valid nor necessary. Failure to submit the necessary data would result in ADA denying the registration, and registration without satisfying the data submittal requirements would be an enforceable violation of the Department's program. Those registrants needing additional time to complete specific data requirements can apply for conditional registration as described in A.R.S. § 49-310.

The current subsection (F) contained a provision allowing the Director to determine whether an active ingredient or pesticide was critical to agricultural production in Arizona. Stakeholders agree that the new alternatives in this Section make this language unnecessary and it has been deleted.

If a pesticide was registered with the ADA and the data submittal requirements were never completed, this would be considered a groundwater protection data gap. There are no longer data gaps for those originally registered pesticides. Currently, if a registrant were to register a pesticide with the ADA without complying with the data submittal requirements, it would be a violation and subject to enforcement under A.R.S. § 49-304. The groundwater protection data gap associated with failure to complete a data call-in through a time extension has been deleted from this Section.

The current rules call for disputes between a registrant and the Department to be handled through arbitration. These disputes are now handled under the Uniform Administrative Appeals Procedures in Arizona Revised Statutes, Title 41, Chapter 6, Article 10. This Section has been deleted to reflect this change.

The current rules require that the numeric data must be generated according to testing methods described in EPA's Pesticide Assessment Guidelines, Subdivisions D and N. Since adoption of the current rules, EPA has adopted newer guidelines that either augment or supersede the earlier product chemistry guidelines of Subdivision D and has

updated the environmental fate data and reporting requirements of Subdivision N. In the mid-1990's, EPA developed the Pesticide Assessment Guidelines Information Retrieval System, which was the first comprehensive, electronic collection of the Guidelines, their amendments and related EPA policies that registrants can access through the internet. This rulemaking allows registrants and the Department to access and use EPA's updated guidelines.

One of the compelling arguments made by stakeholders was the fact that a number of pesticides were being registered in California that had not or could not seemingly be registered in Arizona. Since Arizona's pesticide laws were based largely on the original California laws, stakeholders expressed frustration at this apparent discontinuity between the two programs. After lengthy discussions with stakeholders, the Department agreed that if a registrant obtained full registration through the California registration process, the Department would strongly consider this information. This rulemaking adds the proof of pesticide registration in California as an alternate submittal option. [Note: California's full registration process includes additional data requirements above and beyond the specific information submittal and evaluation process required in Arizona. However, the California registration process has some additional provisions that could result in a registrant satisfying the data submittal requirements using the same studies but not obtaining a final registration of the product or a determination regarding whether a pesticide active ingredient has the potential to pollute groundwater. In these rules, for Arizona to consider the decision of California' as a reciprocal finding in its deliberation, the Department will require a pesticide be evaluated and approved under California' corresponding law, the California Food and Agricultural Code.]

The rules retain both the waiver and the alternate information provisions of the current rules subject to certain requirements and clarifications.

The current rule does not require the Director to issue a formal decision as to when the data submittal process has been satisfied and the pesticide could be registered with the ADA. The amended rule contains language requiring the Director to notify the ADA when all the necessary information has been submitted and is sufficient to determine whether the pesticide active ingredient has the potential to pollute groundwater in the state. If the Director cannot make this finding, the pesticide cannot be registered in Arizona unless the registrant is able to obtain conditional registration under A.R.S. § 49-310.

This rulemaking adds a subsection outlining the information that must be submitted should a registrant seek to have an agricultural use pesticide active ingredient evaluated under the new alternate evaluation process in R18-6-103. The registrant needs to prepare an assessment that includes information on factors, such as: proposed patterns of use, applicable cultural practices, and pertinent geologic and meteorologic conditions.

The rule currently requires that a registrant submit new or amended information if it is found after registration. This Section has been amended to allow the registrant to submit any information that would affect the Director's determination of the potential for a pesticide to pollute groundwater.

This Section allows for alternative information (an assessment of the product chemistry and environmental fate data) to be submitted to assist the Department in its evaluation of the agricultural use pesticide active ingredient.

The chemical industry seeks the ability to submit relevant scientific data and summaries, in addition to those studies that are specifically required, where the additional data may enhance the ability of the Department to determine whether a pesticide has the potential to pollute groundwater in the state. The registrants may also provide relevant information and summaries from other states and/or agencies, such as the EPA for consideration by the Department. The Department believes this additional information may be of value or pertinent during the evaluation process. The Department finds that the statute and rules are clear on the face that data must be generated under both environmental and use conditions similar to those found in the appropriate areas of Arizona. This rulemaking provides, in subsection (C), for the submittal of this information if it is directly relevant to the pesticide evaluation process.

R18-6-103. Agricultural Use Active Ingredient Evaluation

This Section retains the Specific Numeric Values (SNVs) approach to evaluating a pesticides potential to pollute groundwater and introduces the option of using an alternate scientific method to perform this evaluation. The new method requires the registrant to prepare an assessment that must include a number of specific factors that analyzes the pollution potential of the pesticide. The Department will evaluate the assessment to determine whether the pesticide has the potential to pollute groundwater and therefore should be placed on the GWPL.

Specific Numeric Values

This approach requires numeric data on a number of factors affecting mobility and persistence of a pesticide. As noted above, the numeric data must be obtained from studies that have been performed using testing methods described in EPA's *Pesticide Assessment Guidelines.*

Mobility Factors	Persistence (Degradation) Factors
Water solubility	Hydrolysis
Vapor pressure	Photolysis

Octanol-water partition coefficient	Aerobic soil metabolism
Soil adsorption coefficient	Anaerobic soil metabolism
Henry's law constant	Field Dissipation

For a number of the factors listed below, the Department has established SNVs that are used to determine whether a pesticide has the potential to pollute groundwater and should be placed on the GWPL. The values from the current rule have been retained and are the original 1985 EPA flagging criteria for determining the potential for a pesticide to leach to and pollute groundwater. The following values have been adopted:

Mobility Factors		**Persistence (Degradation) Factors**	
Water solubility	> 30 ppm	Hydrolysis half-life	> 25 weeks
Soil adsorption coefficient	< 5	Aerobic metabolism half-life	> 3 weeks
		Anaerobic metabolism half-life	> 3 weeks
		Field dissipation half-life	> 3 weeks

The procedure for including a pesticide on the GWPL considers both the pesticide's mobility and persistence. The movement of pesticides and other inorganic compounds through the soil zone, the underlying vadose zone, and the saturated zone is dependent on properties of both the compound and the porous medium. Water solubility and soil adsorption coefficient are used as indicators of a pesticide's mobility and the degradation half-lives are used as indicators of its persistence. Any pesticide active ingredient that fails at least one SNV in both the mobility and persistence factors will be placed on the GWPL.

There is general agreement that the current SNV procedure is a very conservative approach and may result in the listing of a pesticide with little potential to leach to groundwater. In addition, the SNVs were established and used by EPA for use in the national program in the mid 1980's and, therefore, in some cases may fail to adequately consider the unique hydrogeographic as well as environmental use conditions of the arid southwest. This means more products are placed on the GWPL, which then require monitoring by the Department. The cost of monitoring for the current GWPL has varied over the past 15 years but averaged nearly $250,000 annually.

The original GWPL, adopted in 1992, was composed of 152 agricultural use pesticide active ingredients. Each year a new draft GWPL was established but never became effective because it was not adopted in rule. The draft GWPL for 2004, contains 223 active ingredients and includes the original 152 agricultural use pesticide active ingredients from 1992 plus all currently registered active ingredients that have failed at least one mobility and one persistence factor.

Environmental Assessment

A.R.S. Title 49, Chapter 2, Article 6 allows the Director, in consultation with the ADA and the Department of Water Resources to adopt an alternative procedure for determining the potential for a pesticide to pollute groundwater. This rulemaking introduces a second method of evaluation prepared by the registrant. This evaluation allows the registrant to submit an alternate assessment of the product chemistry and environmental fate data parameters of the active ingredient to show whether the pesticide has the potential to pollute groundwater. The assessment must include consideration of: patterns for using the agricultural use pesticide in the state and the cultural practices and geological and meteorological conditions of those areas within the state where the pesticide active ingredient is intended for use. These assessments can include mathematical modeling to estimate the mobility, persistence and concentrations of the pesticide. The majority of the models currently in use by the chemical industry and the EPA require input of product chemistry and environmental fate properties of the pesticide, the data submittal information required in R18-6-102, as well as application rates, characteristics of the application site, rainfall records, and irrigation requirements. In addition, during the last 15 years, EPA has required newer design studies, including field-based prospective groundwater studies, for many pesticides. Assessments including these newer generation of scientific data may help the Department's evaluation of the pesticide's potential to pollute the state's groundwater.

This new evaluation procedure will allow for consideration of new scientific approaches in determining pollution potential. The Department supports the use of new science and refining the GWPL to contain those pesticides with true potential to leach to groundwater. While the impact of the new process may not have an immediate impact on the GWPL, ultimately refinement of the GWPL will reduce the monitoring burden for the agency and focus resources on those products of real concern.

Submittal of other information

The chemical industry seeks the ability to submit data, information and summaries from other states and/or agencies such as the EPA for consideration by the Department. The Department believes this additional information may be of value or pertinent during the evaluation process. The Department finds that the statute and rules are clear that data must be generated under both environmental and use conditions similar to those in Arizona. Submittal of information, evaluations, and conclusions from other states or agencies, especially those not in the arid southwest, does not add to the completeness determination. This rulemaking provides, in subsection (C), for the submittal of this information if it is directly relevant to the pesticide evaluation process.

R18-6-104. Monitoring and Testing

The statute requires that the Department monitor both soils and groundwater for pesticides that are listed on the GWPL, in areas of the state where agricultural pesticides are primarily used or where other factors identify that pesticides may migrate into groundwater of the state. The Department began testing for pesticides in 1986 after passage of the EQA. Since 1992, the Department has implemented a monitoring program specifically directed at pesticides on the GWPL. In 1993, information from the ADA's Form 1080 became available and was used to direct monitoring efforts through 1997. A report entitled "Monitoring Report of the Pesticide Contamination Prevention Program of Arizona (1987-1997), January 17, 2001" shows that during that period, the program collected groundwater and soil samples statewide from 817 wells and 77 sites. With the exception of a well in Cochise County, all the wells and sites that had detections of pesticides on the GWPL were in Yuma or Maricopa County. The report found 23 wells and two sites with GWPL pesticide detections. Another eight wells and one site had non-GWPL pesticides. These sites were in either Yuma or Maricopa Counties. Of the 31 wells with pesticide detections during 1987-1997, 77 percent (24/31) were monitoring wells, 16 percent (5/31) were irrigation wells; and 7 percent (2/31) were public drinking water systems. Recommendations in the report included: 1) focusing monitoring activities on monitoring wells situated in highly vulnerable and active agricultural areas; and 2) securing funding to establish a network of index/benchmark wells to monitor changes in water quality. In the late 1990s, the Department oversaw the installation of over 40 monitoring wells in Yuma and Maricopa Counties for the ADA which used FIFRA funding from the EPA.

Because the Department has neither the expertise nor the budget to conduct controlled field studies to verify the mobility and persistence of pesticides under Arizona conditions any reference to "field-testing" is not practical. A review of the historical monitoring data supports continued efforts should be focused in agricultural areas and especially in those areas with vulnerable sites, for example, shallow aquifers; close proximity to perennial surface waters; sandy, permeable soils; and in areas requiring substantial irrigation to maximize leaching.

If a pesticide active ingredient, other specified ingredient, or degradation product is found in groundwater or below the crop root zone, or eight feet below surface, the Department has the ability to take certain enforcement actions. Depending on the particular health risks for the compound in question, the concentration of the chemical found, and the degree to which the situation constitutes a threat to groundwater, the Department can require the cancellation of registrations for all agricultural use products containing the active ingredient (thus prohibiting its use in Arizona), or require the modification of the label of the pesticide to ensure that the use of the pesticide will not result in any further contamination or potential contamination of groundwater.

R18-6-105. Listing or deleting of pesticides on the groundwater protection list

This Section has been repealed.

Subsection (A) dealing with the addition of a pesticide to the GWPL is now at R18-6-301(B). Subsection (B) dealing with nonagricultural use pesticides has been deleted because statute only involves agricultural use pesticides. Subsection (C), dealing with deleting active ingredient from the GWPL is now at R18-6-301(C). Subsection (D) dealing with petitioning the Director to add or delete a pesticide to or from the GWPL is now at R18-6-301(D).

R18-6-106. Information Requirements for a Pesticide Formulator

No substantive changes were made to this Section, only minor wording changes were made for clarification.

R18-6-301. Groundwater Protection List

Currently the final GWPL has been adopted in rule. Adding or deleting a pesticide to or from the GWPL, by formal rulemaking, is resource intensive and not practical in terms of making the List available to stakeholders in a timely manner. This Section establishes a process by which the Department will develop and maintain the GWPL (agricultural use pesticides that have the potential to pollute groundwater). The process includes publishing a proposed GWPL in the *Arizona Administrative Register,* accepting written comments from the public, and publishing the final list in the *Register* on or before July 1st. The GWPL is effective on December 1st of the publication year, and, as required by the EQA, the final list will be reported to the Legislature on or before that date.

Crop production is a year-round industry in Arizona but summer and fall are especially important seasons for preparation, planting, and harvesting of crops. Both the chemical industry and the growers need sufficient time to respond to the new GWPL, in terms of crops being grown, products available for use, and whether specific best management practices may be needed. By mid-summer when a list would be published many growers are well into their preparation for summer, fall, and winter plantings and would be severely impacted by a GWPL becoming effective in the middle of their planning cycle. Likewise, it takes the Department time to evaluate the pesticides for the potential to

pollute groundwater, publish the draft GWPL in the *Register*, respond to comments, and publish a final GWPL. For these reasons, the Department determined that the effective date of the GWPL should remain December 1 of the publication year. The Department will begin developing the draft GWPL early in the calendar year, based on the previous calendar year's registrations, and publish it in a March or April issue of the *Register*. After the close of the comment period, the Department will respond to the written comments and make any necessary modifications to the GWPL. The final list and a summary of the comments and responses will be published in the *Register* on or before December 1.

As noted in the explanation under R18-6-105, the requirements for adding or deleting an pesticide from the GWPL are now contained in this Section. A pre-existing process whereby any interested person may request a review by the Director to add or delete an pesticide from the GWPL was also moved from R18-6-105 to this Section. A person requesting the review must provide an explanation for the request and studies and conclusions to support the request, if applicable. Upon receiving the request, the Director shall notify the registrant in writing of the request and again upon making the final determination whether to add, remove, or keep the pesticide on the list.

As noted in R18-6-103, when the Pesticide Contamination Prevention Rules were first adopted in 1992, there were 152 agricultural use pesticide active ingredients on the GWPL. Each year the Department has drafted a new GWPL but the successive GWPLs were never adopted into rule. The 2004 List will contain 223 active ingredients and their associated agricultural use pesticides (approximately 1500 – 2000). – the original 152 plus any registered active ingredient since 1992 that met the criteria based on the specific numeric values. These new rules provide some new or refined opportunities for data submission as well as a new evaluation process for determining the potential for a pesticide to pollute groundwater. The Department has drafted a preliminary GWPL based on a number of the changes in the new rules including alternate data submittal requirements and the addition and deletion criteria in R18-6-301, including the ability to remove pesticides no longer registered in the state. The final GWPL contains 59 active ingredients and their associated agricultural use pesticides.

Registrants for the chemicals on the 2004 GWPL did not have the opportunity to use these new or revised options for evaluation and listing. To address this situation, a new subsection has been added specifically dealing with agricultural use pesticides that have been placed on the GWPL prior to this rulemaking. This rulemaking provides an opportunity for the registrant of an agricultural use pesticide that has been placed on the GWPL prior to July 1, 2005, to request a re-evaluation of the pesticide's potential to pollute groundwater based on the new evaluation process outlined in subsection R18-6-103(2). The registrant must submit a written request before December 1, 2005 and include the assessment information and supporting documentation outlined in R18-6-103(2). The Director will not accept a request for re-evaluation if an active ingredient, other specified ingredient, or degradation product has been detected in Arizona soil or groundwater as noted in R18-6-104 and R18-6-301(E)(1).

Adoption of a new GWPL will have significant one-time start-up costs for the Department. The draft GWPL confirms that a number of currently listed active ingredients will be removed from the list based on the new options for data submission but there will likely be some new pesticides also added. The Department will work with the Department of Health Services in fiscal year 2006, to develop analytical methods to allow analysis of soil and groundwater samples for the newly listed chemicals.

R18-6-302. Findings and Determinations

No substantive changes were made to this Section. The notification required in subsection (A) has been moved to subsection R18-6-104(C).

R18-6-303. Requirements for an Agricultural Use Pesticide on the Groundwater Protection List

A.R.S. § 49-305(A) requires the Department to regulate pesticides listed on the GWPL. After significant discussions with stakeholders, it was determined that the most practical and efficient way to regulate use of these pesticides was through the use of self-directed Best Management Practices (BMPs). This rule requires that any person who causes the soil application of an agricultural use pesticide on the GWPL to implement BMPs to reduce or prevent the pollution of groundwater.

Because of the diversity of Arizona's agricultural industry, rather than establishing a prescribed set of BMPs, the Department established factors that must be considered in selecting appropriate BMPs that best suit the situation given site characteristics and proximity to water resources. The ADA under its FIFRA-based authority regulates the safe storage, handling, and transport of pesticides and containers as well as emergencies. The primary areas of concern for this rulemaking are areas with shallow groundwater, near perennial surface waters, and near domestic drinking water sources.

As noted in R18-6-104, the 10-year review of pesticide monitoring in Arizona indicates that groundwater and soil in active agricultural areas in Yuma County and, to a lesser extent, Maricopa County, are most susceptible to agricultural pesticide contamination. Wells with very shallow groundwater depth that draw water from the upper part of the aquifer in these areas appear to be the most susceptible. In addition, the Salt and Gila Rivers, in the southwestern portions of Maricopa County are listed as "impaired" for DDT, DDE, toxaphene, and chlordane from historic agricultural use and disposal. Several of these pesticides have been banned from use for over 25 years but their persistence in the environment underscores the need for regulation. Requiring the use of BMPs is the most practical manner in which to address the issues and diversity of the industry.

Implementing this part of the rules will require extensive education and outreach to the agricultural community, in particular to the growers, pest control advisors, and applicators. The Department and the ADA can provide this education and outreach through various outreach forums including the certification and training program, ADA's Compliance Assistance Program, and possible partnership with the Natural Resources Conservation Service. ADEQ with support from both ADA and ADWR will develop the necessary support materials to: 1) locate perennial streams, man-made or natural lakes, reservoirs, ponds, and canals that provide drinking water; 2) locate all public and semi-public drinking water wellheads in the state; and 3) delineate areas of the state with shallow groundwater that is susceptible to contamination through the use of agricultural use pesticides on the GWPL. In addition to education, changes to the ADA Form 1080 may be implemented to capture when BMP related decisions have been made in relation to the application of the pesticide.

The current rules required both the use and sales of agricultural use pesticides on the GWPL that are soil-applied to be reported to ADEQ. This affects growers, lessees, applicators, and dealers subject to certain exemptions. The information obtained from this reporting allows the Department to prepare an annual report for the Legislature as required under A.R.S. § 49-303(C). The information has also been used to identify specific areas of the state where pesticides are used for: 1) reconstructing the history of pesticide use at a site where detections are found in soil or groundwater; or 2) preparing annual pesticide sampling plans under the monitoring requirements. The rules detail the specific content requirements for the reports but after significant discussion with stakeholders and the ADA, it was determined the information that is of value to the Department in implementing the program is being reported to the ADA on its Form 1080. The rule has been modified to have the Director request that ADA provide certain information for each agricultural use pesticide on the GWPL that is soil-applied. In addition, the report will include selected information including crop type, acreage, pest condition, name of product used, amount applied, and location of application. This will help avoid any unnecessary duplication of regulatory effort and redundant reporting requirements. The two state agencies have a Memorandum of Understanding and will continue to work towards improving data management and communications.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on in its evaluation of or justification for the rule or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

"*Monitoring Report of the Pesticide Contamination Prevention Program of Arizona (1987-1997),"* January 17, 2001.

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

A. *Estimated Costs and Benefits to the Department of Environmental Quality.*

The rulemaking provides for alternatives in the data submittal process. Some of the changes, for example, evidence of California evaluation and approval of a given pesticide, may reduce overall staff time needed for reviews; and allowing registrants to use EPA's updated *Pesticides Assessment Guidelines*, which will result in changes in the acceptance criteria for the submitted studies and the ability to submit alternate information to satisfy one or more of the required studies, will require additional staff training and possibly extended reviews. Currently the program manager is conducting all the reviews of this highly technical chemical and environmental data. This puts the program at risk should turnover occur. The Department will need to build program strength with the addition of staff with adequate skills and education to conduct these necessary reviews.

It is not known what impact the new evaluation process in R18-6-103(B) will have on the Department. Current evaluations of data based on the specific numeric values approach are time-consuming and require staff with significant chemistry knowledge. The new evaluation process, which will be based on an assessment of facts prepared by the registrant may include computer modeling that will require additional training for existing staff or the need for staff with other specialized knowledge. The rulemaking provides the opportunity for a registrant to submit an assessment for the Department's consideration to re-evaluate an active ingredient on the GWPL before the adoption of the new rules. There are a number of pesticides on the current GWPL and the final 2005 GWPL that will be published on or before July 1, 2005, that both the Department and industry agree have little potential for leaching to groundwater but have been or will be listed based only on the SNV equation. The Department has agreed to a process where a registrant can develop an assessment submittal, based on the new rule requirements, for review on or before December 1, 2005. The potential number of submittals for this re-evaluation is unknown. This will be an added burden to the Department above and beyond the regular registration reviews.

Adoption of a new GWPL will have both costs and benefits to the Department. Eliminating the requirement to adopt the GWPL in rule will be a moderate savings to the Department in terms of time and resources to conduct a rulemaking process each year. The draft list will be published in the *Arizona Administrative Register* for 30 days to accept public comment. Developing a response to comments, adjusting the list as needed and publishing the final list in the *Register* are new steps but represent a minimal impact to state resources.

The new GWPL will contain fewer active ingredients and associated agricultural use pesticides, which, ultimately, will reduce the monitoring burden for the Department and allow the focus of the monitoring on those pesticides with

the true potential to leach to and pollute groundwater. Between 1987 and 2002, the Department collected nearly 1100 groundwater samples throughout the state, which translates to an average of $115,000 per year. The amount per year has been decreasing since the mid-1990s for two reasons: 1) budget reductions and 2) refinement of the program focus to Maricopa and Yuma counties based on detections over the past 15 years. Currently the Department conducts monitoring on a bi-annual basis using FIFRA money provided by the ADA. For the past five years, the budget has averaged $30,000, which based on the current analysis costs for the existing GWPL, translates to approximately 15-20 samples per year. Once the new GWPL is developed, the agencies will need to sample for this new list of pesticides in those areas of the state where use is likely. The cost for analyzing a sample of the active ingredient associated with the current GWPL is between $1500-2000. Assuming the new GWPL is approximately 2/3 the size of the current list, the cost of analyzing the active ingredients associated with the new GWPL suite could be estimated at $1000-1400. With no increase in the monitoring budget, based on the estimated cost for analyzing a suite on the new GWPL, the agency could collect 21-30 samples per year.

The new GWPL will contain a number of new agricultural use pesticide active ingredients for which methods of analyses have not been previously developed by the Department of Health Services (DHS). The statute requires the agency work with DHS to develop analytical methods to test for the newly listed pesticides. This will result in possibly significant one-time costs to the Department. The draft GWPL contains 59 pesticide active ingredients: 13 of these are from the original 1992 plus an additional 46 active ingredients based on the SNVs. For the 13 active ingredients that are currently listed, analytical methods currently exist. The remaining 46 active ingredients, assuming worst case that none are able to be removed via either the one-time re-evaluation process in R18-6-301(E) or can be shown to not have the potential to pollute groundwater through the new evaluation process at R18-6-103(2), will require development of new analytical methods. Records from the original rulemaking indicate the Department spent approximately $350,000 to develop analytical methods for the current GWPL. The 1992 rulemaking contains references to estimates for method development for 133 active ingredients of $300,000. The Department used these figures to estimate the costs for developing methods for the 46 active ingredients on the draft GWPL. The estimated cost of method development for new pesticides on the GWPL is $125,000.

The rules establish that any person, who causes an agricultural use pesticide on the GWPL to be soil applied, shall implement Best Management Practices (BMPs) to protect groundwater. While enforcement of this falls to the Department, the Department will work closely with the ADA in carrying out these provisions. The Department and the ADA recognize the need to provide education and outreach to various sectors of the agricultural community including growers, pest control advisors (PCA), and applicators and will work together to develop training materials on selecting and implementing BMPs. Training will be done by Department and ADA staff and the University of Arizona Cooperative Extension through a variety of outreach activities, including the Certified Pesticide Applicators Program. Another program is the ADA Agricultural Consultation and Training (ACT), which currently deals with the producer and dairy industries. The agencies will explore expanding the ACT program to provide compliance assistance to growers, PCAs, and applicators, on the need for and appropriateness of certain BMPs. The Department with support from both ADA and ADWR will develop the necessary support materials to 1) locate perennial streams, man-made or natural lakes, reservoirs, ponds, and canals that provide drinking water; 2) locate all public and semi-public drinking water wellheads in the state; and 3) delineate areas of the state with shallow groundwater that is susceptible to contamination through the use of agricultural use pesticides on the GWPL. The data for the support materials is readily available within the agencies and can be made available to the public through use of Geographic Information System (GIS) technology. The materials are also available by hard copy and via the various agency web sites.

B. ***Estimated Costs and Benefits to Political Subdivisions***.
Political subdivisions of this state are not directly affected by the implementation and enforcement of this rulemaking.

C. ***Estimated Costs and Benefits to Businesses Directly Affected By the Rulemaking.***
Businesses seeking to register pesticides in Arizona – including manufacturers and formulators.

This rulemaking provides registrants flexibility in data submittal. The rules establish the criteria for a registrant to submit alternate information to satisfy a data requirement in A.A.C. R18-6-102(A), and to submit evidence of California registration of the product for consideration by the Department. This will significantly reduce costs for registration. According to the registrants, certain sectors of the Arizona agricultural industry do not generate sufficient income to justify development of Arizona specific studies. As noted earlier in the Preamble, estimated costs and time for some of the required tests ranged from $10,000/two months for a water solubility test to over $150,000/12 months for a complete field dissipation study in Arizona. This will likely result in a small increase in the number of available products for use in Arizona and a similar small increase in quantities of existing products that will no longer be on the GWPL. The changes in the rule clarify the amount and quality of information that is required to use studies, conclusions, and evaluations from other states or agencies.

The costs for a registrant to prepare an assessment for consideration under the new evaluation process are unknown as one has not yet been prepared. The result of the new process will likely be fewer active ingredients and associated agricultural use pesticides being placed on the GWPL. As noted above, this rulemaking provides the opportunity for registrants to submit an assessment for the Department's consideration to re-evaluate a pesticide on the GWPL before the adoption of the new rules. Again, the costs for developing the assessment are unknown but the choice to pursue the re-evaluation is voluntary.

Since the reporting requirements have been consolidated into those required for ADA; the primary benefit from a smaller GWPL is to the agricultural industry and related to the new BMP requirements (covered below).

Agricultural Industry – including dealers, applicators, growers, advisors

Removing the GWPL from rule gives the growers and PCAs quicker access to the GWPL for planning purposes and to determine the need for BMPs. The GWPL would not be effective until December of the publication year and would be used throughout the following year until the next list became effective. The public participation aspects of the list creation process are similar to those of rulemaking so the public has essentially the same ability to participate without the formal adoption process.

Growers, pest control advisors, and aerial applicators will be required to ensure implementation of BMPs if they will cause the soil-application of a pesticide on the GWPL. Of particular concern are those areas that are susceptible to contamination. Such areas include regions with shallow groundwater, public/semipublic domestic water systems, and perennial surface waters including streams, reservoirs, lakes, ponds, and drinking water canals. Because of the diverse nature of both the agricultural industry and Arizona as a state, it is left to the responsible individuals to decide what BMPs are needed and when. The rule requires the implementation of BMPs after considering specific factors but ultimately leaves the specific decision-making to the individuals. Many of the products currently registered in Arizona have label restrictions or guidelines on them based on national or local needs. This new requirement is an extension to cover areas with susceptibility to contamination in Arizona. Discussions with the agricultural industry indicate that the group, as a whole, is fairly advanced in its understanding of environmental issues and are currently implementing best management practices for a variety of reasons. This new requirement should not dramatically impact the average grower but may impact the smaller grower who will require some training to understand the issues and available options.

The rules allow users and dealers of pesticides on the GWPL to satisfy the reporting requirements for both the Department and the ADA via their submittals to the ADA under FIFRA. The overall impact is no change in the reporting requirements to the ADA but an elimination of redundant reporting to the Department.

D. ***Estimated Costs and Benefits to Private and Public Employment.***

Private and public employment is not directly affected by the implementation and enforcement of this rulemaking.

E. ***Estimated Costs and Benefits to Consumers and the Public.***

This rulemaking will have minimal impact on consumers and the public. The alternatives permitted under the data submittal process and the alternate evaluation process may translate to some additional effort on the part of the chemical companies. Recovery of those costs may be passed along to the growers who would pass them along to consumers. It is unlikely this would exceed pennies per product for the consumer.

The requirement to implement BMPs near areas susceptible to contamination -- perennial surface waters, shallow groundwater, and drinking water wellheads -- should result in overall reduction in the need to treat or remediate soil or groundwater from pesticide contamination.

F. ***Estimated Costs and Benefits to State Revenues.***

This rulemaking will have no impact on state revenues. There are no fees associated with the aspects of the program that the Department implements. Pesticide registration fees will not change as a result of this rulemaking and will continue to be paid to the ADA. The changes in the Department's portion of the program may result in slight increase in the number of pesticides that can be registered in the state due to the alternatives in the data submittal requirements. This will primarily affect the niche crop industry rather than the larger, mainstay agricultural commodities. The changes in the GWPL will not affect revenues as those pesticides placed on the GWPL were still able to be registered in the past. They were subject to additional regulations through the use of mandatory BMPs and reporting requirements.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

Rulemaking changes made as a result of responses to comments are described in item #11. Minor grammatical, formatting, and other non-substantive changes have been made throughout the rule package by the Department and as suggested by the Governor's Regulatory Review Council and have not been addressed in items #10 or #11.

11. A summary of the comments made regarding the rule and the agency response to them:

Commenter Robert Schuler, on behalf of the Western Plant Health Association, Arizona Crop Protection Association, and Western Growers Association; and Arthur L (Artie) Lawyer, Technology Sciences Group Inc.: First: Our suggestion for Section R18-6-301(B)(3) is an important grammatical one. We believe the current proposed language was unintentionally left as an awkward sentence with a hanging clause. As a result, the sentence's meaning is unclear. Since that clarity is important to the purpose of that paragraph, our suggestion is to make that change by adding two words (the same suggestion was made in January and we assume was just missed). The proposed two-word addition is shown in ALL CAPS:

> "A pesticide degradation product or other specified ingredient, which is associated with the agricultural use pesticide active ingredient AND WHICH poses a threat to public health, has been found under the conditions described in subsection (B)(2)."

Second: The second suggestion involves the "Reasons for Revisions" Section. The sentence of concern is:

> "Submittal of information, evaluations, and conclusions from other state or agencies, especially those not in the arid southwest, does not add to the completeness determination."

We suggest this sentence be removed. At the very least the reference to the "arid southwest" should be removed. The irony of leaving this statement in is that one of the fundamental purposes for the legislation was to become more open in considering all information that would enable the Department to determine the whether a pesticide has the potential to contaminate Arizona's groundwater, regardless of where the experimentation was performed.

As we recall, the registration of the active ingredient that triggered the concern that brought Senator Marsha Arzberger's attention to this issue last year was resolved by the Department using studies performed in the Northern Midwest and/or Canada, not the Southwest.

Response: The Department agrees the commenter's first suggestion and has added the word "which" in R18-6-301(B)(3) as proposed.

Regarding the commenter's second suggestion, the Department agrees to removing the sentence in question from the Preamble. While the Department doesn't necessarily agree with the evidence the commenter cites as supporting its removal, the Department believes there will be no benefit lost or gained with its removal. Therefore, the last sentence in the R18-6-102 overview (Reason for Revisions, page 1226 of the Preamble), has been deleted.

> ~~"Submittal of information, evaluations, and conclusions from other states or agencies, especially those not in the arid southwest, does not add to the completeness determination."~~

Commenter – Shelly A. Tunis, attorney for the Yuma Fresh Vegetable Association. This organization is concerned about this rulemaking procedure and has been involved with the rulemaking process for over two years. The association appreciates all the coordination with the ADEQ staff and the Department of Agriculture staff in making this rulemaking possible, especially Linda Taunt, Wang Yu, and Shirley Conard. They went way beyond what was necessary in order to make this the best possible rulemaking. It has been a long process over the past two years beginning with changes to the statutes and the rules, but that produced a thorough product and a product that was beneficial to all interested parties who are affected by these rules. The only other substantive comments is that I agree with the comments presented by Artie Lawyer about the grammatical change on R18-6-301(B)(3) to add "and which," which I believe is a grammatical change. And I agree with his assessment of the reasons for review in the last paragraph dealing with R18-6-102.

Response: The Department appreciates your comments.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rules:

None

14. Was this rule previously made as an emergency rule?

No.

15. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 6. DEPARTMENT OF ENVIRONMENTAL QUALITY PESTICIDES AND WATER POLLUTION CONTROL

ARTICLE 1. NUMERIC VALUES AND INFORMATION SUBMITTAL

Section

R18-6-101. Definitions

R18-6-102. ~~Information submittal~~ Agricultural Use Pesticide Submittal Requirements

R18-6-103. ~~Specific numeric values~~ Agricultural Use Active Ingredient Evaluation

R18-6-104. ~~Field studies, monitoring and testing~~ Monitoring and Testing

R18-6-105. ~~Listing or deleting of pesticides on the groundwater protection list~~ Repealed

R18-6-106. ~~Additional~~ Informational Requirements~~;~~ for a Pesticide ~~Formulators~~ Formulator

ARTICLE 3. GROUNDWATER PROTECTION LIST

Section
R18-6-301. Groundwater Protection List
R18-6-302. Findings and ~~determinations to be made by the Director~~ Determinations
R18-6-303. ~~Requirements for Reporting on Pesticides~~ Requirements for an Agricultural Use Pesticide on the Groundwater Protection List

ARTICLE 1. NUMERIC VALUES AND INFORMATION SUBMITTAL

R18-6-101. Definitions

In addition to the definitions ~~contained~~ established in A.R.S. § 49-301, ~~the words and phrases in this Chapter shall have the following meaning~~ the following terms apply to this Chapter:

~~1. "Active ingredient" means all of the following:~~
~~a. In the case of a pesticide other than a plant regulator, defoliant, or desiccant, an ingredient which will prevent, destroy, repel or mitigate any pest.~~
~~b. In the case of a plant regulator, an ingredient which, through physiological action, will accelerate or retard the rate of growth or rate of maturation or otherwise alter the behavior of ornamental or crop plants or the product thereof.~~
~~c. In the case of a defoliant, an ingredient which will cause the leaves or foliage to drop from a plant.~~
~~d. In the case of a desiccant, an ingredient which will artificially accelerate the drying of plant tissue.~~

~~2.~~1. "Agricultural use pesticide" means any pesticide intended for use directly ~~in the commercial production of plants and animals~~ on a crop. ~~It~~ An agricultural use pesticide does not include animal pesticide eartags~~,~~ or pesticides intended solely for use within and around a confined ~~structures~~ structure.

~~3. "Applicator" means any person who applies, or causes to have applied, any agricultural use pesticide whether for his own use or on the property of other persons.~~

~~4. "Applicator certification number means a number issued by the Arizona Department of Agriculture and assigned to an applicator for the purposes of applying or supervising the application of a restricted use pesticide.~~

~~5. "Carcinogenic" means that property of a substance which causes cancer in humans.~~

~~6.~~2. "Crop" means ~~the commodity upon which a pesticide is to be applied~~ any plant, animal, plant product, or animal product produced for commercial or research purposes.

~~7. "Custom applicator license number" means a number issued by the Arizona Department of Agriculture and assigned to a person for the purposes of applying pesticides for hire or by air.~~

~~8.~~3. "Data generator" means any person providing information to support the registration in this state of an agricultural use ~~product pursuant to the requirements of~~ pesticide in accordance with A.R.S. § 49-302(A).

~~9. "Dealer" means a person or persons engaging in the distribution and sale of agricultural use pesticides.~~

~~10. "Department" means the Department of Environmental Quality.~~

~~11. "Director" means the Director of the Department of Environmental Quality.~~

~~12.~~4. "EPA" means the United States Environmental Protection Agency.

~~13. "Field studies" means studies conducted under actual field conditions that replicate those circumstances under which a pesticide is normally used, to determine the mobility and persistence of the pesticide pursuant to A.R.S. §§ 49-307 and 49-225.~~

~~14. "Final sale" means the final sale prior to the application of the agricultural use pesticide to the agricultural crop.~~

~~15.~~5. "Formulator" means any person who purchases an EPA-registered pesticide to reformulate or repackage and register the pesticide for sale in this state.

~~16. "Grower" means a person who makes purchases of agricultural use pesticides or contracts for the application of agricultural use pesticides to commercial agricultural commodities, as part of the person's normal course of employment or activity as an owner, lessee, sublessee, share cropper or manager of land upon which application of pesticides is made.~~

~~17. "Grower's permit number" means a number issued by the Arizona Department of Agriculture and assigned to a particular organization, cooperative, or establishment, for the purpose of purchasing pesticides which are to be used on agricultural commodities for pest control.~~

~~18.~~6. "Label" means the written, printed, or graphic matter on, or attached to, the pesticide ~~or device or any of its containers or wrappers~~ container, and the outside container or wrapper of the retail package, if any, of the pesticide.

~~19. "Labeling" means all labels and all other written, printed, or graphic matter either accompanying the pesticide or device at any time or to which reference is made on the label or in literature accompanying the pesticide or device, except to current official publications of the Environmental Protection Agency, the United States Departments of Agriculture and Interior, the Department of Health and Human Services, state experiment stations, state agricultural colleges, and other similar federal or state institutions or agencies authorized by law to conduct research in the field~~

~~of pesticides.~~

~~20. "Mutagenic" means that property of a substance which causes genetic change or alteration in humans.~~

~~21. "New pesticide" means any pesticide not registered in Arizona before December 1, 1987. A formulation consisting entirely of a mixture of active or specified ingredients previously registered in Arizona, and for which numeric values required by A.R.S. § 49-303 have been accepted by the Department, shall not be considered a new pesticide.~~

~~22. "Nonagricultural use pesticide" means any pesticide not included within the definition of "agricultural use pesticide."~~

~~23.~~7. "Pest" means any weed, ~~undesirable~~ insect, vertebrate pest, nematode, fungus, ~~weed,~~ virus, bacteria, or other pathogenic organism, or any other form of terrestrial or aquatic plant or animal life, ~~or~~ except virus, bacteria, or ~~any~~ other microorganism~~, except~~ on or in living ~~man~~ humans or other living animals, ~~that is, or may be, injurious to vegetation, humans, animals, households or is, or may be, injurious when present in any environment~~ that is declared a pest by the Director of the Arizona Department of Agriculture.

~~24. "Restricted use pesticide" means a pesticide classified as such by the EPA.~~

~~25. "Seller's permit number" means a number issued by the Arizona Department of Agriculture and assigned to a particular organization, cooperative or establishment, for the purpose of selling or offering to sell pesticides in the state except as exempted under R3-10-209(B).~~

~~26.~~8. "Soil-applied" means ~~a~~ an agricultural use pesticide ~~which is~~ intended ~~to be applied to or injected~~ for application to or injection into the soil by ground-based application equipment or ~~by~~ chemigation, or the label of the pesticide requires or recommends that the application ~~be~~ is followed within 72 hours by flood or furrow irrigation.

~~27. "Supplier" means a person engaged in the sale of a pesticide to another person for the purpose of reformulation or repackaging and registering for sale in this state.~~

~~18. "Teratogenic" means that property of a substance that can cause fetal malformations in humans.~~

~~29. "Toxic to humans" means that property of a substance which causes, when present in sufficient concentration, an adverse effect in humans if ingested, inhaled, or otherwise absorbed into the human body.~~

R18-6-102. ~~Information submittal~~ Agricultural Use Pesticide Submittal Requirements

~~**A.** An initial information submittal shall consist of a transmittal letter and a completed three-page tabular summary form, with the studies required pursuant to A.R.S. § 49-302 attached. A pesticide registrant shall submit the information specified in A.R.S. § 49-302(A) for each active ingredient in each agricultural use pesticide registered by that pesticide registrant for use in this state. A three-page tabular summary form shall be provided by the Director to facilitate compliance with this requirement. The summary form shall contain the following:~~

~~1. Company name and address.~~

~~2. Name and telephone number of person making the submittal.~~

~~3. Date of filing.~~

~~4. Product information (brand name, Environmental Protection Agency registration number, formulation category, and intended use).~~

~~5. Active ingredient (technical name, Chemical Abstract Service (CAS) No., and common name), and, in addition to information required by A.R.S. § 49-302, the following regarding each active ingredient:~~

~~a. Molecular weight.~~

~~b. Bulk density.~~

~~**B.** The information required in A.R.S. § 49-302 shall be submitted when an agricultural use pesticide is first registered in the state of Arizona and at the time of the annual registration process if new or amended information is available for a pesticide or active ingredient.~~

~~**C.** The registration of a new pesticide shall not be granted until the Director determines both of the following:~~

~~1. That a groundwater protection data gap does not exist for any active ingredient in the new pesticide.~~

~~2. Whether the new pesticide will be added to the Groundwater Protection list.~~

~~**D.** A request for a time extension for submitting information required by A.R.S. § 49-302(A)(6) shall be in writing and shall identify the pesticide registrant, the pesticide product, the address of the registrant, the reason or reasons why such an extension is warranted, and the status of ongoing dissipation studies. Any communication by the Director with a pesticide registrant approving or denying a time extension shall be in writing.~~

~~**E.** If a pesticide registrant fails to request an extension as provided by A.R.S. § 49-302(D) and (E), fails to submit all of the information as required by A.R.S. § 49-302(A) and (B), or fails to submit data which is valid, complete and adequate, the pesticide registrant shall be notified by the Department that a groundwater protection data gap exists pursuant to A.R.S. § 49-304. Failure to respond to the notification shall result in cancellation or denial of registration pursuant to A.R.S. § 49-306.~~

~~**F.** If a pesticide registrant fails to submit the information required by A.R.S. § 49-302 and this Article, the Director may determine that an active ingredient or pesticide is critical to agricultural production in Arizona. Any interested party may request this determination from the Director. In order to determine that an active ingredient or pesticide is critical to agricultural production in Arizona, the Director shall find either of the following:~~

~~1. There is no economical, practical and effective alternative method or practice of pest control available, and the gross dollar value of annual agricultural production supported by the pesticide exceeds the cost of securing the information.~~

~~2. The pesticide is needed to support a new or developing crop as identified by a public or private research agency or educational institution.~~

~~G. If the Director determines that an active ingredient or a pesticide is critical to agricultural production in this state, and if the Director determines that an appropriate amount of funding is available through the methods described in A.R.S. § 49-306(C), the Director shall obtain and file the information required by A.R.S. § 49-302 for that active ingredient or pesticide.~~

~~H. Whenever the Director undertakes the filing of information as described in subsections (F) and (G), the Director shall notify in writing the registrant of the pesticide or the active ingredient of his finding and his intent to file the required information. In addition, the Director shall notify any other persons who have requested in writing that they be notified of the Director's determination that a pesticide is critical to agriculture.~~

~~I. A dispute regarding costs assessed against a pesticide registrant to cover the costs accrued by the Department in obtaining and filing information in the manner described in subsections (F) and (G) shall be submitted by the registrant or the Director to mediation under the Commercial Mediation Rules, The American Arbitration Association, New York, New York (October 1987) (and no future editions), which is incorporated by reference and on file with the Office of the Secretary of State and with the Department.~~

A. Pre-registration data requirements for new agricultural use pesticides.

1. Before registering a new agricultural use pesticide under A.R.S. § 3-351, an applicant shall submit information that enables the Department to determine whether the new agricultural use pesticide has the potential to pollute groundwater in the state. This information shall include:
   a. A transmittal letter;
   b. The following information on a Data Summary form obtained from the Department:
      i. The company name and address;
      ii. The name and contact information of the person making the submittal;
      iii. The date of filing;
      iv. The product information, including the brand name, EPA registration number, formulation category, and intended use; and
      v. The active ingredient technical name, Chemical Abstract Service (CAS) number, common name, molecular weight, and bulk density; and
   c. The following information for each active ingredient:
      i. Water solubility;
      ii. Vapor pressure;
      iii. Octanol-water partition coefficient;
      iv. Soil adsorption coefficient;
      v. Henry's law constant;
      vi. Dissipation studies, including hydrolysis, photolysis, aerobic and anaerobic soil metabolism, and field dissipation, performed under conditions in Arizona, or similar environmental and use conditions, if that information exists in studies and conclusions from other states or the United States government. The studies shall, at a minimum, meet EPA testing methods and reporting guidelines.
2. The applicant may submit the following alternate information:
   a. Upon Director approval, alternate information to satisfy one or more of the data requirements in subsection (A)(1)(c). The alternate information shall accurately describe the relevant data required for each new agricultural use pesticide active ingredient under conditions in Arizona or under similar environmental and use conditions;
   b. California registration.
      i. Evidence that the California Department of Food and Agriculture registered the agricultural use pesticide following the data requirements under California Food and Agricultural Code Section 13143; and
      ii. Documentation showing that required studies were performed under environmental and use conditions that are similar to those conditions in Arizona.
3. Waiver. The Director may waive some or all of the information required in subsection (A)(1)(c) if the applicant demonstrates that:
   a. Due to the nature of the active ingredient, it is not scientifically possible to obtain meaningful results for the specified tests; or
   b. Due to the application or cultural practices for the active ingredient, it is not necessary to obtain some or all of the information.

B. Pre-registration data submittal completeness.

1. The Department shall notify the Arizona Department of Agriculture when the applicant submits all the information on the active ingredient required under subsection (A) and the Director has concluded that the information is sufficient to determine whether the active ingredient has the potential to pollute groundwater of the state.
2. If the Director cannot determine that the data submittal requirements for agricultural use registration in Arizona have been met, the person may apply for a conditional registration under A.R.S. § 49-310.

C. Information submittal for the product chemistry and environmental fate assessment evaluation. After satisfying the data submittal required in subsection (A) and registering the pesticide with the Arizona Department of Agriculture:
1. A registrant may prepare an assessment of the product chemistry and environmental fate parameters for the Department to evaluate the potential for a new agricultural use pesticide to pollute groundwater. The assessment shall include:
   a. Patterns for using the agricultural use pesticide in Arizona;
   b. Cultural practices for those areas within Arizona where the agricultural use pesticide is intended for use;
   c. Geological and meteorological conditions of the regions within Arizona where the agricultural use pesticide is intended for use; and
   d. Any other information the Director determines is necessary to support the assessment.
2. A registrant may submit any of the following information if it is directly relevant to the agricultural use pesticide active ingredient evaluation:
   a. Relevant scientific data and summaries, including those submitted to or required by federal and state agencies that further support the studies required in R18-6-102(A)(1)(c);
   b. Relevant evaluations and conclusions by federal and state agencies, including evaluations of the studies required in R18-6-102(A)(1)(c);
   c. Documentation that addresses whether the studies required in R18-6-102(A)(1)(c) were performed under environmental and use conditions that are similar to those in Arizona.

D. If new information is available about the active ingredient of an agricultural use pesticide currently registered by the Arizona Department of Agriculture, the Director may require the registrant to submit the new information to the Director to assess whether the information is relevant to the Director's determination under subsection (B)(1).

R18-6-103. ~~Specific numeric values~~ Agricultural Use Active Ingredient Evaluation

~~Each pesticide registered for agricultural use in Arizona shall be evaluated on the basis of the following specific numeric values pursuant to A.R.S. § 49-303.~~ For each new or existing agricultural use pesticide registered in Arizona, the Director shall determine whether each active ingredient has the potential to pollute groundwater in the state. The Director shall either:
1. Base the evaluation on the information submitted in accordance with R18-6-102(A) to determine whether the active ingredient fails any of the following mobility factors and one or more of the following persistence factors; or

SPECIFIC NUMERIC VALUES

~~Property~~ MOBILITY FACTORS		~~Specific NUMERIC VALUES~~ PERSISTENCE FACTORS	
Water solubility	No greater than 30 ppm	Hydrolysis	Half-life no greater than 25 weeks
Soil ~~absorption~~ adsorption coefficient	~~Kd~~ K_d no less than 5	Aerobic soil metabolism	Half-life no greater than 3 weeks
		Anaerobic soil metabolism	Half-life no greater than 3 weeks
		Field dissipation	Half-life no greater than 3 weeks

2. Base the evaluation on the product chemistry and environmental fate assessment submitted in accordance with R18-6-102(C).

R18-6-104. ~~Field studies, monitoring and testing~~ Monitoring and Testing

A. The Director shall conduct ~~field studies~~ soil and groundwater monitoring for ~~pesticides~~ active ingredients contained in agricultural use pesticides placed upon the Groundwater Protection List as required ~~by~~ under A.R.S. § 49-307(A). The Department may conduct soil and groundwater monitoring for other specified ingredients or degradation products based on active ingredient test results or other information about the pesticide.

B. ~~For each agricultural use pesticide, the~~ The Director shall use the results of soil and groundwater monitoring and testing ~~to make the determinations required by~~ after considering the factors in A.R.S. §§ 49-307(C)~~,~~ to make the determination in 49-308(A) ~~and (B),~~ and 49-309(A), (B), or (D).

~~**C.** For each nonagricultural use pesticide, the Director shall use the results of soil and groundwater monitoring and testing to make determinations identical to those required by subsection (B) for an agricultural use pesticide.~~

~~**D.** If the determinations listed in subsection (C) cannot be made after study and monitoring, the Director shall follow the procedures for deleting described in R18-6-105.~~

C. If the Director determines that an agricultural use pesticide meets the criteria or conditions specified in A.R.S. § 49-308(A), the Director shall notify the registrant in writing.

R18-6-105. ~~Listing or deleting of pesticides on the groundwater protection list~~ Repealed

~~A.~~ ~~The Director shall add an agricultural use pesticide to the Groundwater Protection List for any of the following reasons:~~
- ~~1. A complete dissipation study is not submitted for a pesticide as required by A.R.S. § 49-302(A)(6).~~
- ~~2. A pesticide fails to comply with the specific numeric values established in R18-6-103.~~
- ~~3. A pesticide active ingredient is detected consistent with the testing requirements of R18-6-104 and is found under conditions described in A.R.S. § 49-308(A). or~~
- ~~4. A pesticide degradation product or other specified ingredient is detected consistent with the requirements of R18-6-104, where the pesticide degradation product or other specified ingredient poses a threat to public health pursuant to A.R.S. § 49-308(A)(3) and has been found under the conditions described in paragraph (3) of this subsection.~~

~~B.~~ ~~The Director shall add a nonagricultural use pesticide to the Groundwater Protection List for any of the following reasons:~~
- ~~1. The detection of a pesticide active ingredient under conditions identical to those given for an agricultural use pesticide under A.R.S. § 49-308(A).~~
- ~~2. The detection of a pesticide degradation product or other specified ingredient consistent with the requirements of R18-6-104, where the pesticide degradation product or other specified ingredient poses a threat to public health and has been found under the conditions described in paragraph (1) of this subsection.~~

~~C.~~ ~~The Director may remove a pesticide from the Groundwater Protection list under any of the following circumstances:~~
- ~~1. In the case of agricultural use pesticide, the pesticide is no longer considered to have the potential to pollute groundwater due to a change in a specific numeric value established in R18-6-103, or due to a revision in the specific numeric values for an active ingredient established by new research studies.~~
- ~~2. In the case of a nonagricultural use pesticide, the manufacturer has modified the pesticide label and has demonstrated that future applications will not result in a potential to pollute groundwater in this State.~~
- ~~3. In the case of a nonagricultural use pesticide, monitoring and testing results establish that:~~
  - ~~a. A degradation product or other specified ingredient of the pesticide does not pose a threat to public health.~~
  - ~~b. The pesticide active ingredient, other specified ingredient, or degradation product found in the soil or groundwater, or both, either has not polluted, or does not threaten to pollute, the groundwater of this State.~~
- ~~4. The registration of the pesticide has been cancelled under either of the following circumstances:~~
  - ~~a. The State Chemist has cancelled the registration of the pesticide pursuant to A.R.S. §§ 3-343(C), 3-351(1) 49-306, or 49-309.~~
  - ~~b. The registration of the pesticide has been voluntarily cancelled by the registrant.~~

~~D.~~ ~~Any person may petition the Director to add or delete a pesticide to or from the Groundwater Protection List. Such a request shall be consistent with the procedures for rule making and petitioning prescribed by A.R.S. § 41-1033 and shall consist of a written request to add or delete the substance with reasons for the request. In determining whether to grant or deny the petition, the Director shall consider the following:~~
- ~~1. Whether the petitioner has supported the petition for the adoption of a rule with documentation in the form of information studies, and conclusions, based upon procedures consistent with those described in A.R.S. §§ 49-301 through 49-309 and R18-6-104.~~
- ~~2. Whether the supporting documentation demonstrates that the substance should be added to or deleted from the Groundwater Protection List.~~

R18-6-106. ~~Additional~~ Informational Requirements~~:~~ for a Pesticide ~~Formulators~~ Formulator

A. ~~Subject to the provisions of this Section, a~~ A pesticide formulator may rely upon the data generated by ~~any~~ another person to meet the requirements ~~of~~ in R18-6-102. ~~A~~ The pesticide formulator shall submit, to the Department, the name of ~~each~~ every person who is a source of each agricultural use pesticide active ingredient ~~in each agricultural use pesticide, registered by that formulator for use in this state~~.

B. The Department shall request that each person ~~source~~ identified ~~by the pesticide formulator~~ under subsection (A) ~~to~~ verify within 30 days, in writing, ~~that they provide~~ whether the person provides the pesticide formulator with the active ingredient in question.

C. If ~~the source identified by the pesticide formulator~~ a person advises the Department that ~~they are~~ the person is not a source ~~of~~ for the active ingredient ~~for~~ used by the pesticide formulator or if the person does not respond under subsection (B), the Department shall notify the pesticide formulator of that fact and shall require ~~further documentation of~~ the pesticide formulator to provide either of the following documents attesting to a business relationship involving the active ingredient in question~~.~~: ~~This documentation will take the form of a copy of a confidential statement of formula,~~
- 1. ~~a~~ A signed contract, or
- 2. ~~any~~ Any other documentation of a business arrangement, endorsed by each party.

D. If the pesticide formulator does not produce acceptable documentation of a business relationship ~~pursuant to~~ under subsection (C) ~~of this Section~~ or if ~~the source~~ a person identified by the pesticide formulator is not a data generator for the active ingredient in question, the ~~Department~~ Director shall find that a groundwater protection data gap exists for the ~~for-~~

~~mulator's~~ agricultural use pesticide, ~~pursuant to A.R.S. § 49-301(4)~~ and the formulator is subject to the provisions ~~of~~ in A.R.S. § 49-304.

E. Any pesticide formulator ~~relying~~ who relies on data submitted by a person identified ~~sources~~ as a source under subsection (A) shall notify the Department of any ~~changes~~ change in ~~a~~ the source within 60 days of a similar notification to the EPA.

ARTICLE 3. GROUNDWATER PROTECTION LIST

R18-6-301. Groundwater Protection List

~~The following pesticides are on the Groundwater Protection List because they have been identified pursuant to A.R.S. §§ 49-305 and 49-303(B)(2) following evaluation on the basis of criteria given in R18-6-103 and R18-6-105.~~

~~2,4-D Acid~~
~~2,4-D Alkanol-amine salts of ethanol and isopropanol~~
~~2,4-D Alkyl amine salt~~
~~2,4-D Alkyl amine~~
~~2,4-D Butoxyethyl ester~~
~~2,4-D Butyl ester~~
~~2,4-D DDA (Dodecylamine salt)~~
~~2,4-D Diethanolamine salt~~
~~2,4-D Dimethylamine salt~~
~~2,4-D Ethylhexyl ester~~
~~2,4-D Isobutyl ester~~
~~2,4-D Isooctyl (2-Ethyl-4-Methylpentyl) ester~~
~~2,4-D Isooctyl (2-Ethylhexyl) ester~~
~~2,4-D Isopropylamine salt~~
~~2,4-D N-Oleyl-1,3-Propylenediamine salt~~
~~2,4-D TDA (Tetradecylamine)~~
~~2,4-D Triethylamine salt~~
~~2,4-D Triisopropanolamine salt~~
~~2,4-DB butoxyethyl ester~~
~~2,4-DB, DMA salt~~
~~1,2-Dichloropropene~~
~~Acephate~~
~~Acrolein~~
~~Alachlor~~
~~Aldicarb~~
~~Ametryn~~
~~Amitrole~~
~~Arsenic Acid~~
~~Asulam, sodium salt~~
~~Atrazine~~
~~Azinphos-methyl~~
~~Bendiocarb~~
~~Benomyl~~
~~Bromacil~~
~~Butylate~~
~~Cacodylic Acid~~
~~Captan~~
~~Carbaryl~~
~~Carbofuran~~
~~Carboxin~~
~~Chlorothalonil~~
~~Chlorsulfuron~~
~~Copper sulfate~~
~~Cyanazine~~
~~Cycloate~~
~~Cyromazine~~
~~Diazinon~~

~~Dicamba acid~~
~~Dicamba, DEA salt~~
~~Dicamba, DMA salt~~
~~Dicambe, potassium salt~~
~~Dicamba, sodium salt~~
~~Dichlobenil~~
~~Dicloran~~
~~Diethathyl ethyl~~
~~Difenzoquat methyl sulfate~~
~~Dimethoate~~
~~Diphenamid~~
~~Diquat dibromide~~
~~Diuron~~
~~DPX-M6316~~
~~Endosulfan~~
~~Endothall~~
~~Endothall, dipotassium salt~~
~~Endothall, disodium salt~~
~~EPTC~~
~~Ethephon~~
~~Ethofumesate~~
~~Ethoprop~~
~~Ethyl parathion~~
~~Etridiazole~~
~~Fenamiphos~~
~~Fenarimol~~
~~Fluazifop-p-butyl~~
~~Fluazifop-r-butyl~~
~~Flucythrinate~~
~~Fluometuron~~
~~Fluridone~~
~~Fosamine ammonium~~
~~Fosetyl-Al~~
~~Glyphosate, isopropylamine salt~~
~~Hexazinone~~
~~Imazamethabenz - methyl (meta)~~
~~Imazamethabenz - methyl (para)~~
~~Imazalil~~
~~Imazaquin~~
~~Isazofos~~
~~Lindane~~
~~Linuron~~
~~Malathion~~
~~Maleic hydrazide, potassium salt~~
~~MCPA~~
~~MCPA - DMA salt~~
~~MCPA - isooctyl ester~~
~~MCPA - sodium salt~~
~~Mepiquat chloride~~
~~Metaldehyde~~
~~Metalaxyl~~
~~Metam - Na~~
~~Methamidophos~~
~~Methiocarb~~
~~Methomyl~~
~~Methyl parathion~~
~~Metolachlor~~
~~Metribuzin~~
~~Metsulfuron methyl~~

~~Mevinphos~~
~~Monocrotophos~~
~~Myclobutanil~~
~~Napropamide~~
~~Norflurazon~~
~~Oryzalin~~
~~Oxamyl~~
~~Oxydemeton-methyl~~
~~Paraquat~~
~~Pebulate~~
~~Phosmet~~
~~Phosphamidon~~
~~Picloram~~
~~Picloram, isooctyl ester~~
~~Picloram, triisopropanalomine salt~~
~~Picloram, potassium salt~~
~~Piperonyl butoxide~~
~~Profenofos~~
~~Prometon~~
~~Prometryn~~
~~Proamide~~
~~Propamocarb~~
~~Propiconazole~~
~~Pyrazon~~
~~Sethoxydim~~
~~Simazine~~
~~Sodium bentazon~~
~~Sodium chlorate~~
~~Sulfometuron-methyl~~
~~Sulprofos~~
~~Tebuthiuron~~
~~Terbacil~~
~~Terbufos~~
~~Terbutryn~~
~~Thidiazuron~~
~~Thiodicarb~~
~~Thiophanate-methyl~~
~~Thiram~~
~~Triadimefom~~
~~Trichlorfon~~
~~Trichlpyr~~
~~Triclopyr, butoxyethyl ester~~
~~Triclopyr, triethylamine salt~~
~~Triforine~~
~~Vernolate~~
~~Vinclozolin~~

A. Groundwater Protection List. The Director shall, using an evaluation process specified in R18-6-103 and the addition and deletion criteria specified in subsections (B) and (C), annually develop and maintain a list of agricultural use pesticides that have the potential to pollute groundwater.

1. The Department shall publish the proposed Groundwater Protection List in the Arizona Administrative Register and accept written comments from the public.
2. The written public comment period begins on the publication date of the list and extends for 30 calendar days.
3. The Department shall publish the final Groundwater Protection List each year in the Arizona Administrative Register on or before July 1. The list is effective on December 1 of the publication year.

B. Adding an agricultural use pesticide. The Director shall add an agricultural use pesticide to the Groundwater Protection List for any of the following reasons:

1. An agricultural use pesticide active ingredient is identified under R18-6-103 as having the potential to pollute groundwater;
2. An agricultural use pesticide active ingredient is detected in Arizona consistent with the testing requirements of R18-

6-104 and is found:
a. At or below the deepest of the following depths:
i. Eight feet below the soil surface, or
ii. Below the root zone of the crop where the active ingredient was found;
b. In the groundwater of this state;
3. An agricultural use pesticide degradation product or other specified ingredient that poses a threat to public health has been found under the conditions described in subsection (B)(2).

C. Deleting an agricultural use pesticide. The Director shall delete an agricultural use pesticide from the Groundwater Protection List under any of the following circumstances:
1. The results of monitoring and testing conducted by the Department, a government agency, or other reliable source establish that the active ingredient has not been detected in Arizona under the conditions described in subsection (B)(2).
2. The Director no longer considers the agricultural use pesticide to have the potential to pollute groundwater in Arizona based on:
a. A change in a specific numeric value established in R18-6-103(1),
b. A revision in the specific numeric values established by new research studies or new procedures, or
c. The results of the evaluation under R18-6-103(2).
3. Agricultural use pesticide registration cancellation. The Arizona Department of Agriculture no longer registers the agricultural use pesticide under A.R.S. § 3-351(I).

D. Pesticide review. Any person may request that the Director add or delete an agricultural use pesticide from the Groundwater Protection List by submitting an explanation of the request to the Department with studies and conclusions of support.
1. The Director shall notify the registrant in writing after receiving a request to add or delete an agricultural use pesticide from the Groundwater Protection List and again upon making the determination.
2. The Director shall consider whether the supporting documentation:
a. Is based upon procedures consistent with those described in R18-6-104 and A.R.S. Title 49, Chapter 2, Article 6; and
b. Justifies the addition or deletion of the agricultural use pesticide from the Groundwater Protection List.
3. Director determination.
a. If the Director determines that the agricultural use pesticide has the potential to pollute groundwater, the Director shall add the pesticide to, or retain the pesticide on, the Groundwater Protection List.
b. If the Director determines that the agricultural use pesticide does not have the potential to pollute groundwater the Director shall, if the pesticide is on the Groundwater Protection List, delete it from the list.

E. Reevaluation of an agricultural use pesticide. A registrant may request that the Director reevaluate whether an agricultural use pesticide placed on the Groundwater Protection List before [effective date of this Section] that has the potential to pollute groundwater in Arizona. The registrant shall submit the written request before December 1, 2005 and include the assessment and supporting documentation specified in R18-6-102(C).
1. The Director shall not accept a request to reevaluate an agricultural use pesticide if:
a. An active ingredient has been detected in Arizona using the testing criteria in R18-6-104 and is found under conditions described in subsection (B)(2); or
b. An agricultural use pesticide degradation product or other specified ingredient relating to the agricultural use pesticide has been detected in Arizona consistent with the criteria in R18-6-104 and the agricultural use pesticide degradation product or other specified ingredient poses a threat to public health and has been found under the conditions described in subsection (B)(2);
2. Director determination.
a. If the Director determines that the agricultural use pesticide has the potential to pollute groundwater, the pesticide shall remain on the Groundwater Protection List.
b. If the Director determines that the agricultural use pesticide does not have the potential to pollute groundwater, the Director shall delete the pesticide from the Groundwater Protection List.

R18-6-302. Findings and ~~determinations to be made by the Director~~ Determinations

~~**A.** If the Director makes the determinations described in R18-6-104(B) or (C), the Director shall immediately notify the registrant in writing of these determinations. The status of the registration of the pesticide shall be determined under A.R.S. § 49-309.~~

~~B.~~A. If the ~~Department~~ Director discovers or ~~otherwise~~ becomes aware of the illegal sale or use of any agricultural use pesticide on the Groundwater Protection List, ~~such~~ the Director shall report the sale or use ~~shall be reported by the Director~~ to the appropriate regulatory agency and to the Office of the Attorney General.

~~C.~~B. If the Director finds that an active ingredient, degradation product, or other specified ingredient of ~~a~~ an agricultural use pesticide has been detected under the conditions specified in R18-6-104, ~~but did not result from use in accordance with the pesticide label, then~~ the Director shall refer ~~any~~ these findings to the ~~appropriate~~ state or federal agency responsible for further investigation and enforcement.

~~D.~~C. If the ~~Department~~ Director discovers a site ~~which may demonstrate~~ that demonstrates pesticide contamination, the Director shall determine whether remedial ~~actions~~ action is required under A.R.S. ~~§ 49-282 are appropriate~~ Title 49, Chapter 2, Article 5.

R18-6-303. ~~Requirements for Reporting on Pesticides~~ Requirements for an Agricultural Use Pesticide on the Groundwater Protection List

~~A. A pesticide dealer shall file quarterly reports with the Director postmarked within 30 days after the end of a calendar quarter (March 31, June 30, September 30, and December 31) indicating the quantity and date of sales of agricultural use pesticides on the Groundwater Protection List that are soil-applied. A report is required only from a pesticide dealer who makes the final sale prior to use. Reports shall be made on forms prescribed by the Director and shall contain all of the following:~~

~~1. Name of dealer and seller's permit number;~~
~~2. Date of sale;~~
~~3. Name of purchaser and grower's permit number;~~
~~4. Product brand name and EPA registration number;~~
~~5. Active ingredients;~~
~~6. Formulation category (e.g., wettable powder, granular, emulsifiable concentrate, etc.);~~
~~7. Quantity sold;~~
~~8. Signature of dealer, grower or anyone who causes to apply.~~

A. Any person who causes another person to soil-apply an agricultural use pesticide on the Groundwater Protection List shall implement Best Management Practices to reduce or prevent the pollution of groundwater. In implementing the Best Management Practices, the person shall consider the following factors:

1. Application site characteristics, including soil texture, slope, organic matter, and depth to groundwater to determine site susceptibility. The person shall consider:
   a. Selecting a pesticide based on the intended application site characteristics;
   b. Minimizing or avoiding the use of any pesticide with high leaching or high runoff potential;
   c. Incorporating erosion control practices to minimize runoff; and
   d. Using an alternative pest control method, if practical.
2. Protection of water resources from potential contamination during mixing, loading, or application. The person shall consider:
   a. Applying the correct amount of pesticide according to the label and employ methods that avoid overspray or drift;
   b. Weather patterns, soil moisture, and crop needs before pesticide application; and
   c. Maintaining buffer zones, where applicable.

B. ~~A pesticide applicator shall report the use of any agricultural use pesticide on the Groundwater Protection List that is soil-applied. A report shall be filed on a form prescribed by the Director and shall be postmarked no later than the first Monday following the date of the pesticide application. If the first Monday following the date of the pesticide application is a holiday, the report shall be postmarked no later than the first working day following the holiday. The form shall contain the following:~~ The Director shall annually obtain the following information from the Arizona Department of Agriculture for each agricultural use pesticide on the Groundwater Protection List that is soil-applied:

~~1. Name of seller (dealer);~~
~~2. Name of grower;~~
~~3. Name of pesticide applicator (with applicator certification number, custom applicator license number, or grower permit number);~~
~~4.~~1. The ~~Pest~~ pest condition ~~to be controlled~~ that the agricultural use pesticide will control;
~~5.~~2. ~~Crop~~ The name of the crop and number of acres to which the agricultural use pesticide has been applied;
~~6.~~3. The ~~Location~~ location of use including the ~~(~~county, township, range, and section~~)~~;
~~7.~~4. The ~~Name~~ name of the product used, including the EPA ~~Registration~~ registration number; and
~~8. Date, time, and method of application;~~
~~9.~~5. The ~~Amount~~ amount of ~~product~~ agricultural use pesticide applied per acre~~;~~.
~~10. Signature of applicator.~~